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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,236	09/11/2003	Alain Yves Leveque	AD6571 US CNT 1	5383
23906	7590	05/28/2004	EXAMINER	
E I DU PONT DE NEMOURS AND COMPANY LEGAL PATENT RECORDS CENTER BARLEY MILL PLAZA 25/1128 4417 LANCASTER PIKE WILMINGTON, DE 19805			COOLEY, CHARLES E	
			ART UNIT	PAPER NUMBER
			1723	

DATE MAILED: 05/28/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/660,236

Applicant(s)

LEVEQUE ET AL.

Examiner

Charles E. Cooley

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 14-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 14-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statements submitted on 11 SEP 2003 and 27 OCT 2003 have been considered by the examiner. Note the attached PTO-1449 forms.

Specification

2. The disclosure is objected to because of the following informalities:
 - a. the specification should be revised consistent with the changes made in the preceding parent applications. Pages 3 and 4 and the table on page 13 (add dashes - - to the blank area), the table on page 15 (replace "Examp l e 3" with --Example 3-- and add dashes "- - -" to the blank area), and the table on page 16 (add dashes "- - -" to the blank area) should each be amended commensurate with the changes made in the preceding applications.
 - b. Page 1: the status of each of the parent applications should be updated.
Correction is required.
3. The Abstract of the Disclosure is objected to because:
 - a. the inclusion of legal phraseology such as "means" in the abstract is improper.
Correction is required. See MPEP 608.01(b).
4. The title is acceptable.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 14-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The second paragraph of 35 U.S.C. § 112 requires a claim to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Under *In re Hammack*, 427 F.2d 1378, 166 USPQ 204 (CCPA 1970) and *In re Moore*, 169 USPQ 236 (CCPA 1971), claims must be analyzed to determine their metes and bounds so that it is clear from the claim language what subject matter the claims encompass. This analysis must be performed in light of the applicable prior art and the disclosure. The definiteness of the claims is important to allow others who wish to enter the market place to ascertain the boundaries of protection that are provided by the claims. *Ex parte Kristensen*, 10 USPQ 2d 1701, 1703 (BPAI 1989).

One of the purposes of 35 U.S.C. § 112, second paragraph, "is to provide those who would endeavor, in future enterprise, to approach the area circumscribed by the claims of a patent, with adequate notice demanded by due process of law, so that they may more readily and accurately determine the boundaries of protection involved and evaluate the possibility of infringement and dominance." *In re Hammack*, supra. As set forth in *Amgen Inc. v. Chugai Pharmaceutical Co., Ltd.*, 927 F.2d 1200, 1217, 18 USPQ2d 1016, 1030 (Fed. Cir. 1991):

The statute requires that "[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant

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regards as his invention." A decision as to whether a claim is invalid under this provision requires a determination whether those skilled in the art would understand what is claimed. See *Shatterproof Glass Corp. v. Libbey-Owens Ford Co.*, 758 F.2d 613, 624, 225 USPQ 634, 641 (Fed. Cir. 1985) (claims must "reasonably apprise those skilled in the art" as to their scope and be "as precise as the subject matter permits.").

7. The pending claims fail to particularly point out and distinctly claim the subject matter which applicant regards as the invention and are therefore of indeterminate scope for the following reasons:

Claims 14-17 are of indeterminate scope because the compression ratio defined by claim 14 is defined by reference to parameters of a polymer composition (bulk density and melt density) which are considered variable parameters dependent upon the type of polymer composition utilized for processing by the screw. The scope of claim 14 is drawn to "a polymer composition" which is deemed to encompass a myriad of materials, resulting in countless numbers of potential compression ratios. The screw defined by claim 14 is thus dependent upon the particular polymer material selected. Since the "screw" of claim 14 is defined by reference to the properties of a material which are variable, the metes and bounds of claims 14-17 cannot be determined and it is not clear from the claim language what subject matter the claims encompass (see MPEP 2173.05(b)).

Furthermore, in apparatus claims the material or article worked upon does not limit apparatus claims and is generally not a consideration when determining the patentability of said apparatus claims (MPEP 2115). "Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, "[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims." *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). In particular, claim 17 is not germane to the

patentability of the screw apparatus since claim 17 is considered drawn to particular properties of the polymer composition used with the screw (i.e., the material worked upon by the screw) and thus does not limit the screw apparatus itself.

The claims are being treated on the merits to the extent they are understood and considered definite.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Rauwendaal (US 4,129,386).

The patent to Rauwendaal (US 4,129,386) discloses a screw adapted for being housed in a cylindrical barrel 1 having a substantially constant inner diameter for processing a polymer composition; said screw comprising a screw shaft 3 defining a longitudinal axis and having a thread 9, 10 spirally positioned about the longitudinal axis of the shaft; said spirally positioned thread defining a substantially constant outside diameter of the screw that is less than the inner diameter of the cylindrical barrel 1 (Fig. 1); said spirally positioned thread defining a pitch along said screw shaft (Fig. 3); said screw shaft defining a root diameter that is less than the outside diameter of the screw (Fig. 3); said screw defining a feeding zone A, a compression zone B, and a metering zone C along its longitudinal axis (Fig. 3); said pitch of said spirally positioned thread

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and said root diameter of said screw shaft in said feeding zone and said metering zone defining a compression ratio which for one or more of a given polymer composition(s) is inherently greater than or equal to the ratio of the predetermined melt density to the predetermined bulk density of the polymer composition and up to 1.25 X the ratio of the predetermined melt density to the predetermined bulk density of the polymer composition. Claim 17 is drawn exclusively to the material worked upon and does not limit apparatus claims as explained above.

10. Claims 14-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Japan 57-133038.

Japan 57-133038 discloses a screw a adapted for being housed in a cylindrical barrel b having a substantially constant inner diameter for processing a polymer composition; said screw comprising a screw shaft d defining a longitudinal axis and having a thread 4 spirally positioned about the longitudinal axis of the shaft; said spirally positioned thread defining a substantially constant outside diameter of the screw that is less than the inner diameter of the cylindrical barrel 1 (Figs. 1-2); said spirally positioned thread defining a pitch along said screw shaft (Fig. 3); said screw shaft defining a root diameter that is less than the outside diameter of the screw (Fig. 3); said screw defining a feeding zone 6, a compression zone 7, and a metering zone 8 along its longitudinal axis (Fig. 3); said pitch of said spirally positioned thread and said root diameter of said screw shaft in said feeding zone and said metering zone defining a compression ratio which for one or more of a given polymer composition(s) is inherently greater than or equal to the ratio of the predetermined melt density to the predetermined bulk density of

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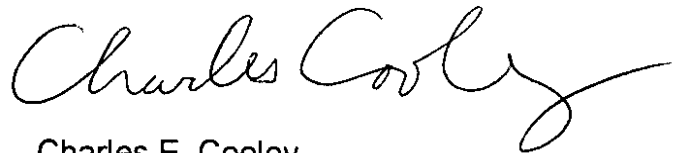
the polymer composition and up to 1.25 X the ratio of the predetermined melt density to the predetermined bulk density of the polymer composition. Claim 17 is drawn exclusively to the material worked upon and does not limit apparatus claims as explained above.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Charles E. Cooley whose telephone number is (571) 272-1139. The examiner can normally be reached on Mon-Fri. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Charles E. Cooley
Primary Examiner
Art Unit 1723

25 May 2004